



Keystone Heat Wave Events in South Carolina

Prepared by
South Carolina State Climatology Office
Land, Water, and Conservation Division
South Carolina Department of Natural Resources

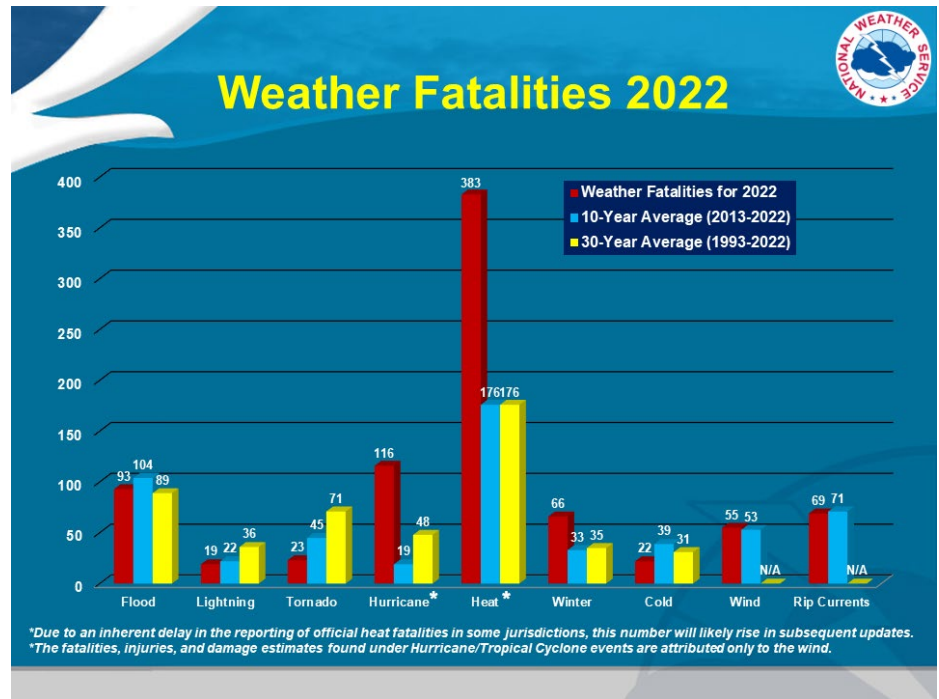


Heat waves are periods of abnormally hot weather relative to the usual temperatures of an area for a given season. They are determined when the temperatures exceed a threshold for a sustained amount of time, usually two or more days.

They generally occur during the summer months, when weather patterns are slow to shift, but can occur late in the spring and into the middle of fall. Most heat waves happen when a ridge of high pressure sits over a region for an extended period of time. While high pressure provides fair weather and clear skies, it forces air downward, acting like a cap and trapping the heat at the surface.

Without rising air to help produce clouds and rain, nothing can prevent the hot air from getting hotter.

The United States Natural Hazards Statistics show that heat has been the leading cause of weather-related fatalities nationwide since 1991, more than floods, hurricanes, lightning, and tornadoes combined.



Narratives, data, and images included in this document were provided by the National Centers for Environmental Information, the National Hurricane Center, the National Weather Service, the United States Geological Survey, the Army Corps of Engineers, the Southeast Regional Climate Center, the South Carolina State Climatology Office, the SCDNR Flood Mitigation Program, the South Carolina State Library, NewsBank, and the Richland County Library.

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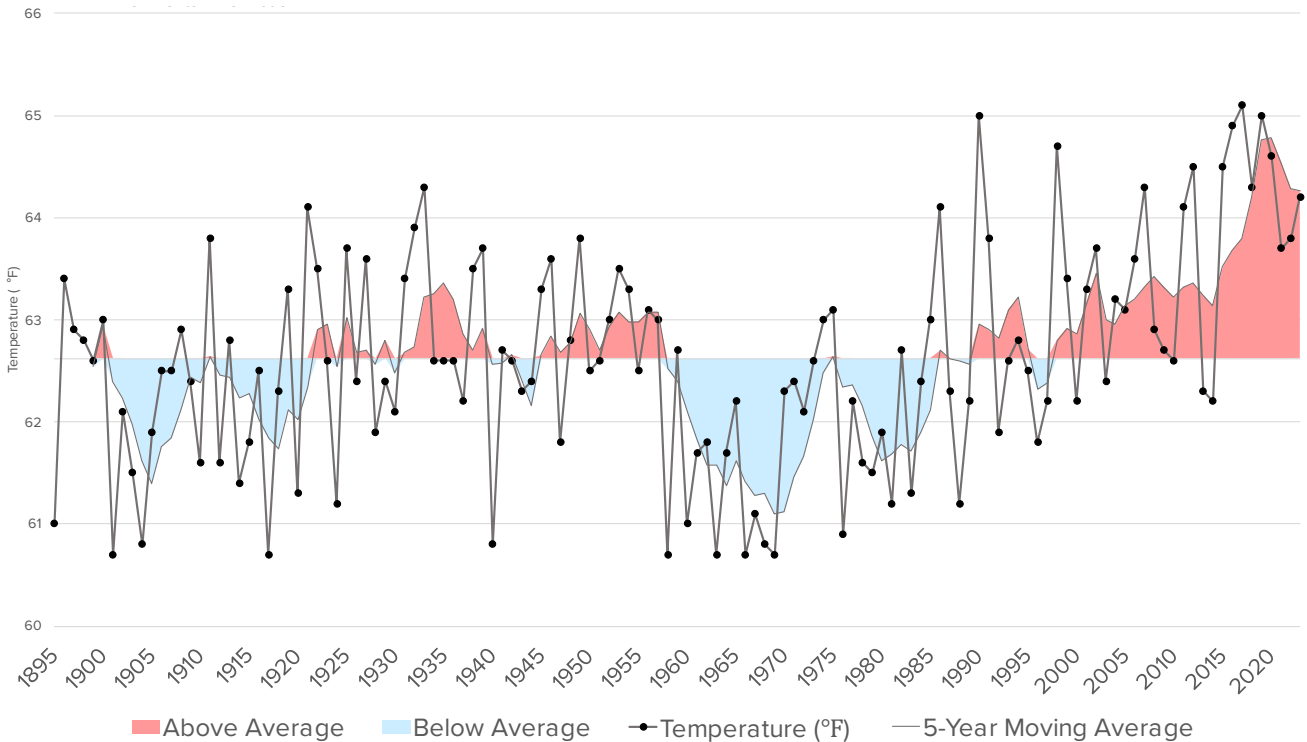
South Carolina Department of Natural Resources
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TEMPERATURE

The state's annual average temperature varies from the mid-50s in the Upstate to the low-60s along the coast. Since the late-1800s, the statewide annual average temperatures have gone through multiple periods of above and below normal temperatures (chart below). Despite the year-to-year variability, the overall pattern of average temperatures across South Carolina has increased since the mid-1970s. A substantial rise in minimum temperatures has driven this increase. The warmest year on record for the state is 2017, with an average temperature of 65.1°F, and seven of the top ten warmest years have occurred since 2010 (table below).

South Carolina Annual Average Temperature (1895 – 2023)



Top Five Statewide Warmest and Coldest Years based on Average Annual Temperature (1895 – 2021).

Statewide Average Temperature			Statewide Average Temperatures		
Year	Average Temperature	Departure from Long Term Average	Year	Average Temperatures	Departure from Long Term Average
2017	65.1°F	2.5°F	1901	60.7°F	-1.9°F
1990	65.0°F	2.4°F	1917	60.7°F	-1.9°F
2019	65.0°F	2.4°F	1958	60.7°F	-1.9°F
2016	64.9°F	2.3°F	1963	60.7°F	-1.9°F
1998	64.7°F	2.1°F	1966	60.7°F	-1.9°F

Source Data: [National Centers for Environmental Information Climate at a Glance Tool](#)

SUMMER TEMPERATURES

During summer, average temperatures range from the upper 60s in the Upstate to the mid-70s in the Lowcountry, though maximum temperatures can reach more than 100 degrees. Heatwaves are extended periods of scorching weather relative to the normal temperatures of an area, which are a common occurrence in the Southeast. Heatwaves can worsen drought conditions, stress agriculture and water resources, and impact human health. South Carolina has experienced multiple heatwaves since 1895, including significant events in July 1952, the summer of 1954, July 1977, August 1983, July 1986, August 2007, and June – July 2012. In June 2012, the hottest temperature on record for the state was recorded on the University of South Carolina campus in Richland County. The station on campus measured a high of 113°F on June 29, which broke the previous record of 111°F set in September 1925 and June 1954.

Year	Charleston (1937-2023)		Columbia Area (1887-2023)		Florence (1948-2023)		Greenville Area (1884-2023)	
	# of Days (≥ 90°F)	# of Days (≥ 100°F)	# of Days (≥ 90°F)	# of Days (≥ 100°F)	# of Days (≥ 90°F)	# of Days (≥ 100°F)	# of Days (≥ 90°F)	# of Days (≥ 100°F)
2023	73	0	69	2	66	1	42	0
2022	62	0	82	5	82	5	56	0
2021	45	0	70	0	77	0	48	0
2020	72	0	66	0	65	0	55	0
2019	82	4	108	9	107	5	81	0
2018	89	0	111	3	100	0	47	0
2017	62	0	100	0	57	0	35	0
2016	98	2	109	21	94	0	78	1
2015	71	0	99	17	88	9	60	1
Max	98 (2016)	11 (1986)	116 (2010)	28 (1954)	108 (1954)	26 (1954)	88 (2011)	13 (1887)
Avg	57	1	72	4	67	3	41	1
Min	20 (1959)	0 (2023*)	24 (1967)	0 (2021*)	18 (1971)	0 (2021*)	9 (1909)	0 (2023*)

In addition to heatwaves, the hot and humid climate of the state can produce oppressive heat indices values. The heat index (HI), also known as apparent temperature, measures how hot it feels when the relative humidity is factored in with the air temperature. Prolonged exposure or strenuous activity when HI values exceed 105 degrees can cause heat-related illnesses (table below). In July 2011, maximum HI values in the Lowcountry reached more than 110 degrees, including an unofficial state record HI of 124 degrees recorded at the Mount Pleasant Airport.

Average Number of Hours with Heat Index (HI) Values at or above Threshold Values (1973 – 2018)

Location	80°F	85°F	90°F	95°F	100°F	105°F	110°F	115°F
Greenville-Spartanburg	1038.4	655.7	310.8	105.5	20.3	2.5	0.2	0
Columbia	1525.2	1082.2	635.5	300.7	96.5	15.6	1.6	0.1
Charleston	1559.7	1182.5	705.7	357.9	141.6	34.8	7.8	0.8

SEPTEMBER 1925

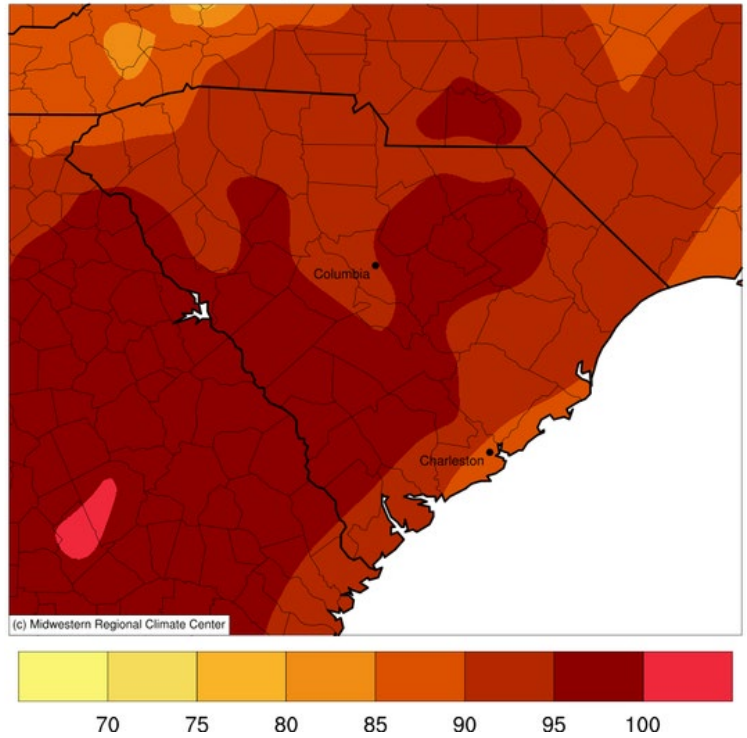
One of South Carolina's most widespread and disastrous droughts occurred in 1925, and the situation intensified due to the record-breaking and persistent heat in September. The unseasonably hot weather peaked between September 4 – 8, when high temperatures ranged from the mid-90s at Caesars Head and the coast, to over 105°F in interior portions of the state.

The governor issued an official proclamation asking "... for prayer to God for deliverance from the threatening evil of the present drought."

All previous months' maximum temperature records were broken during September 1925, as South Carolina and most of the Southeast endured three weeks of excessively high temperatures and little to no rainfall.

Forest fires were numerous, even in swampy areas, many streams dropped to the lowest on record, and hydroelectric power production was reduced.

Average Maximum Temperature (°F)
September 01, 1925 to September 30, 1925



"Never have I recorded so many 90s as this summer."
– E.P Ravenel (Pinopolis COOP Observer)

Highest Temperature	Number of Days TMAX >= 100°F	Station	County
111°F	18	Blackville 3 W	Barnwell
111°F	20	Calhoun Falls	Abbeville
110°F	7	Society Hill 6 S	Darlington
110°F	8	Santuck	Union
110°F	14	Garnett	Hampton
109°F	8	Trenton 1 NNE	Edgefield
109°F	6	Wedgfield	Sumter

DID YOU KNOW?

The 111°F temperatures recorded at Blackville on September 4 and at Calhoun Falls on September 8 held, broke the previous record of 110°F at Chester in July 1887, and held as the hottest temperatures on record for the state until June 2012.

SOUTH STILL IN GRASP OF HEAT

RELIEF IN SOME AREAS

Prayers Offered in South Carolina for Rain—Cooler on South Atlantic

Atlanta, Sept. 5. — (AP).—Dixie sizzled today under the grip of an almost unprecedented heat wave while prayers were being said in South Carolina and at Marion, Ga. for deliverance from the threatened evil of the drought.

Church congregations generally throughout South Carolina complied with the official proclamation of Governor McLeod, designating today as a day of "fasting and prayer." In Columbia the day brought some relief from the intense heat which for several days has reached 100 degrees and up, the thermometer today registering 94.

Record Readings Reported in Palmetto State.

Florence Highest.

MISSES AT CAPITAL BY SLIGHT FRACTION

Columbia's Maximum Within Tenth of Degree of All Time Record—Sullivan Predicts Another Scorching Day of Heat—York's Water Low.

Beneath a dazzling September sun that for almost 13 hours sent forth its burning, scorching withering rays South Carolina lay sweltering yesterday—burned by a heat that for intensity has been scarcely rivaled in all its history.

From every corner of the state—save for Charleston and a section of the coast country—there came reports of the terrific heat—a culmination of a long drought and a series of heat waves that had set many a record, which yesterday tumbled, almost in unison.

At least Palmetto state folk hope it was a culmination. A real break in the heat is not offered for today, but clouds may to an extent check the force of the scourge of the sun as he pursues today his westward course. This was the only sign of relief that Richard H. Sullivan, meteorologist in charge of the South Carolina section of the United States weather bureau, could suggest.

High at Florence.

Florence was apparently the hottest spot in all that dazzling area of heat, which yesterday was South Carolina, the Pee Dee capital reporting a maximum reading of 108 degrees. Close on Florence's heels were Cheraw and Newberry with 107 degrees each, and

(CONTINUED ON PAGE TWO.)

Various newspaper articles about the heat wave from the Charleston News and Courier and the State in September 1925.

SUMMER 1952

While statewide average temperatures for 1952 were near normal, June 1952 is the warmest June on record statewide, and the summer of 1952 is the seventh warmest summer on record. Persistent and stagnant high pressure from June 24 – 27 caused the hottest period, with temperatures up to fifteen degrees warmer than usual. The severe heat at the end of June and the lack of rain caused crops to suffer.

There was a break from the heat during the first half of July; however, there was another heat wave in the second half of the month. The conditions became too hot and dry for cotton, causing young plants to shed and crack immature boils. Some communities had to adopt water conservation efforts by the end of July.

"Crops are suffering from heat. We need rain!! Can you please send some?" – H. Brandt (Walhalla COOP Observer, July 1952)

There were five heat-related fatalities and ten prostrations [exhaustions] in Columbia, and it was presumed that many more occurred over the state where higher temperatures were measured. The heat was listed as the indirect cause of multiple drowning deaths, as people sought the beach and area pools to escape the hot weather.

Carolinas Continue to Bake; Bamberg Is Still the Hot Spot

By the Associated Press.

The Carolinas continued to bake today under the record-shattering heat wave that has seared the two states for the past four days.

Temperatures reached the 100-plus mark again yesterday as new records were set in several areas.

The "abnormally hot" weather will continue through next Wednesday, according to the weatherman's extended forecast. A chance for scattered thundershowers was predicted, but with less than one-tenth of an inch of rain.

Little Bamberg was still the hottest spot in the Carolinas. The temperature there dropped yesterday to 107 degrees from the 108 Thursday. It was the fifth day straight the Bamberg residents had seen the mercury above 100 degrees.

Wilmington — on the seacoast — recorded a record-breaking high of 103.6 degrees. The previous high was 103 set in July, 1879.

Columbia had a high of 105, a new record for a June 27. The mercury in the capital city has been at 100 or higher since Monday.

Marion reported a high of 105, degree higher than Thursday's.

At Hampton it was 104 in the shade.

The official government ther-

момeter at Newberry continued to soar, reaching 103—over the previous day to record the highest temperature of the year.

The mercury skyrocketed to 105 at 3 p. m. at Marion, where the thermometers are in a lattice shed. A Main Street dial type thermometer went past 120, the highest reading provided for. This temperature topped Thursday's high of 104.

Asheville, N. C., sweated under 94 degrees of heat, while normally cool Spartanburg, reported an even 100 degrees.

Fayetteville, N. C., with its sidewalks buckling from the heat, counted 11 prostrations in two days.

Municipal water supply systems in practically every major city labored at capacity to supply the needs of residents. No immediate water shortages had been sighted except in isolated cases, but officials feared the need of rationing should the dry spell continue. In Greensboro, N. C., the greatest volume of water in the city's history—13,538,375 gallons—was pumped Thursday.

At Raleigh the mercury went up to 104 for the second straight day. It is the highest ever recorded in

continued on page 7a, column 6

Torrid Wave May Continue To Wednesday

Highest June Reading On Record Lacks Degree Off Hitting All-Time Mark

Yesterday was the hottest day in 27 years in Columbia and at least five persons collapsed from the heat.

Thermometers shot up to 105 to crack another record and no relief is expected today.

The 100-degree heat wave, now going into its sixth day, may continue through Wednesday or later, Meteorologist Gerald C. Merchant

88 AT MIDNIGHT

The weather bureau reported at midnight that the temperature was still 88 degrees. This was a drop of only two degrees from the reading of 90 at 10 o'clock.

of the United States weather bureau said a five-day outlook is for continued abnormally hot temperatures.

The '105 reading yesterday came at 3:45 and again at 4:45. The mercury had come down to 103 at 4:30 and then the wind shifted to the southwest and it jumped back up two degrees.

All-Time Record High Temperature

	Date	Station	County
105°F	June 26	Sullivans Island	Charleston
108°F	July 23	Cheraw	Chesterfield
108°F	July 24	Little Mountain	Newberry
109°F	July 24	Bamberg	Bamberg
108°F	July 29	Anderson	Anderson
102°F	July 29	Long Creek	Oconee

The above table notes that the all-time highest temperature on record at the listed stations occurred during this heat wave.

Edgefield Man Dies on Augusta Job

Heat Believed Partly Responsible;]

Funeral Today For Columbia's Third Heat Victim

Various newspaper headlines about heat-related fatalities from The State Newspaper in June 1952

JUNE – OCTOBER 1954

HOT WEATHERMAN

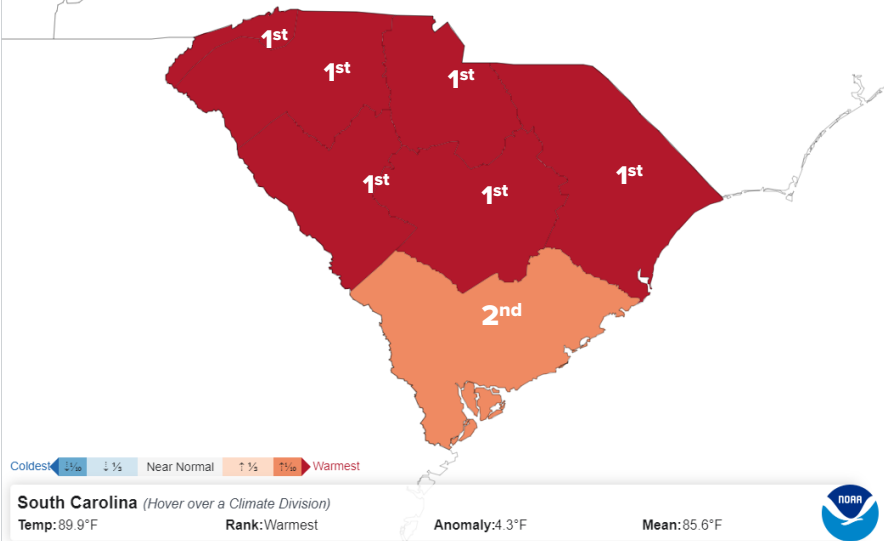


Jim Morrell of the Weather Bureau station at Columbia Airport wipes perspiring forehead as he checks official temperature. Somewhat cooler air prevailed here today (it was only 95 at 1:35 p. m.) after Sunday's sizzling 106.7 degrees.—(Record Photo by Price).

Article in The Columbia Record on June 28, 1954

Divisional Maximum Temperature Rank (129 years)

June - October 1954



During the 1950s, extended drought and heat waves occurred across the central and southern United States, but the 1954 heat waves were especially severe. After a cooler-than-normal May, June ushered in multiple heat waves throughout the summer and into early October.

The station in Camden tied (at the time) the all-time high-temperature record of 111°F, set in September 1925, on June 28, and broke the previous June record of 109°F, recorded in 1952. During the heat wave, the only station to escape the 100°F temperatures was Caesars Head, which observed a maximum of 95 degrees on June 27.

"From 22 through 30, extremely hot and dry. Field crops and gardens suffering severely from lack of moisture."
— M.W. Horry (Ridgeland COOP Observer, June 1952)

Temperatures over 100°F were observed in central portions of the state at the beginning of October, setting records, including an all-time monthly record high of 103°F at Little Mountain that would hold until 2019. During the entire five-month period, the station at Caesars Head was the only one not to record a maximum temperature over 100°F.

Record Heat Again Sizzles Columbians

Columbians sizzled through their third straight day of record breaking heat yesterday as the mercury soared to 101 degrees in the late afternoon to set a new all time high for October heat.

And more of the same is promised today by the experts at the United States Weather Bureau office at Columbia airport.

The high yesterday was four hot degrees above the previous high for October set only Monday. Before that the record was 98 degrees set Oct. 6, 1951. And Sunday's 93 degrees was the highest for an October 3 since records were begun in 1887.

The top mark was hit at 4 o'clock yesterday afternoon but at 7:30 last night the mercury was still way up there at 87 degrees. At 7:30 in the morning the reading was 74, which rose to 98 degrees at 1:30 and the high of 101 at 4 o'clock. As usual there was no rain recorded.

Article in The State Newspaper on October 6, 1954

Number of Days
(Jun – Oct)
TMAX >= 100°F

Station

County

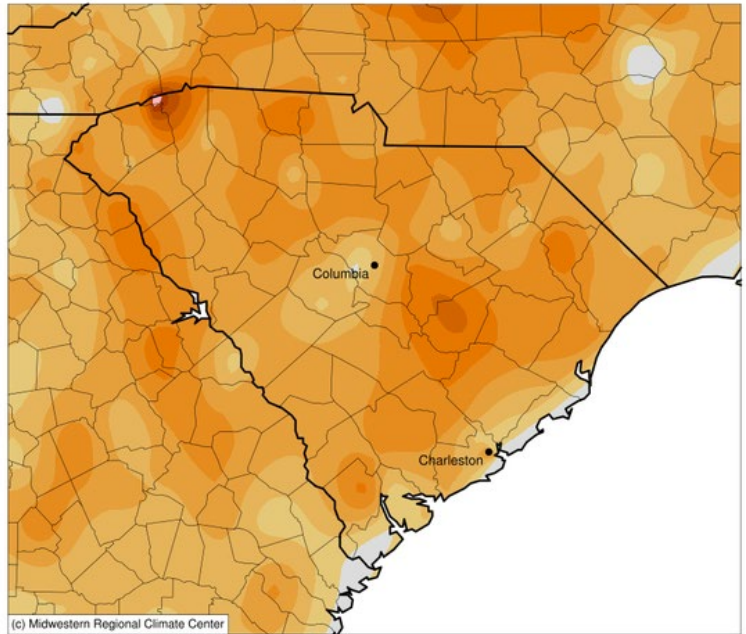
35	Cheraw	Chesterfield
32	Wedgfield	Sumter
31	Little Mountain	Newberry
28	Columbia Metro AP	Lexington
27	Aiken 5 SE	Aiken
26	Florence Reg. AP	Florence
24	Bamberg	Bamberg
23	Calhoun Falls	Abbeville

Forest fires burned thousands of acres throughout the state, and lakes had low-stage levels. Some major rivers, such as the Black and Coosawhatchie, stopped flowing for extended periods.

It was almost two decades before another significant heat wave impacted the state and most of the Eastern Seaboard. July 1977 was unusually hot and dry, the hottest July since 1954. Multiple stations reported temperatures over 100°F during the month, breaking numerous daily high records. The National Weather Service station in Columbia recorded 13 straight days of temperatures at or above 95°F.

July 1977 is the eleventh warmest July on record, with a statewide average temperature of 82.2°F.

Average Maximum Temperature (°F): Departure from 1991-2020 Normals
July 01, 1977 to July 31, 1977



Rainfall during the month was below normal, continuing a trend of drier-than-normal conditions that started in the early spring. The combined hot and dry conditions caused stream flows to drop to record-low levels in some areas and caused increased forest fires.

Agriculture suffered during the summer. At the end of July, reports mentioned that watermelons and peaches were 'cooking' due to the heat. Corn yields were down 55 percent, soybeans were down 33 percent, and cotton was down 29 percent. Hay and grain crops were in such bad condition that livestock farmers considered liquidating their herds due to the lack of feed.

DID YOU KNOW?

This heat wave occurred immediately after one of the coldest winters of the 20th century for the eastern half of the United States. Statewide, the average temperature during the winter of 1976-1977 was 40.1°F, 5.6°F below average, and is the coldest winter on record for South Carolina.

Columbia, South Carolina Wednesday, July 27, 1977 Circulation Ph. 771-8380

Drought Disaster Aid Urged For S.C. Farms

Governor Will Send Plea Today

By MARY WHITLE
Staff Writer

Gov. James B. Edwards will request the federal government to declare South Carolina an emergency drought impact area following the recommendation of the U.S. State Emergency Board which voted Tuesday to send federal emergency disaster funds for 17 counties.

Statewide estimates place the drought damage total at \$11 million.

Additionally, the board voted to ask the local emergency boards in the 19 counties which haven't yet sought disaster designations to meet early next month to update their loss figures. The state board will meet to consider further action August 10.

State Agriculture Commissioner C. Bryan Patrick Jr., having the \$11 million figure on estimated statewide losses, said if farmers are going to be helped "we've got to move and move fast."

Gov. Edwards quickly complied with the board's request and is expected today to forward letters to Secretary of Agriculture Robert Bergland and to the Department of Housing and Urban Development asking for emergency disaster funding.

With such federal approval, farmers in those 17 counties will be eligible for disaster payments through the Emergency Feed Program (EFP) and the Drought, Feed and Conservation Program (DFCP) and for low-cost loans from the Farmers' Home Administration (FHA).

Also, with federal approval, farmers in all 46 counties will be eligible for FEMA loans.

Suggestions by some anxious board members to ask the federal government for disaster designation approval for all 46 counties were met with caution and a warning from Governor Shuler, acting board chairman.

Shaded Counties Seeking Relief
Crop Damage Figures Indicate Losses As Of Early July

Thurmond, Farmer Weathers Lament Crop Damage

(Staff Photo by Chris Photographer 'N.Y. Tele)

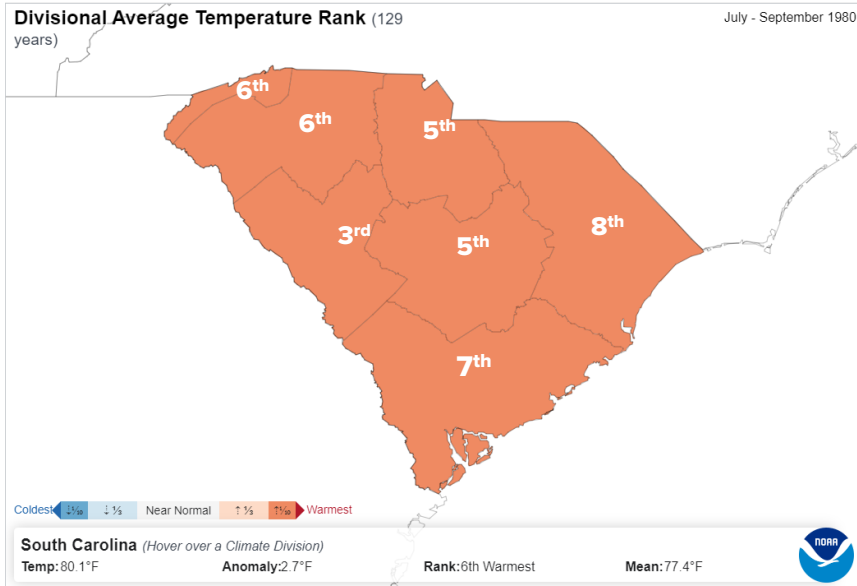
Various newspaper articles about agricultural impacts due to the heat and drought conditions from the State in July 1977.

JULY – SEPTEMBER 1980

July 1980 was hot and dry. Temperatures ranged from two to four degrees higher than normal, with the hottest weather recorded in the southwest portion of the state. At many locations, temperatures exceeded 100°F for multiple days at the end of the month, and it was the first time locations had hit over 100°F since 1977. The first 21 days of August were considerably above normal, with high temperatures at or above 100°F at many locations during the first week of the month.

Temperatures became more moderate toward the end of the month. Scorching dry weather continued until the end of September, adding to already disastrous effects on the state's agricultural economy.

Record electric energy usage was reported during the heat wave, and data from NOAA's Center for Environmental Assessment Service shows that electricity consumption for cooling increased by \$1.4 billion (\$5 billion, 2024) during the summer of 1980.



Temperatures top 100, but 90s on the way

Associated Press

Friday was a hot one in South Carolina and today promises to be another. Temperatures Friday were triple-digit again, a sweaty reminder of the killer heat wave last month.

In Columbia, the temperature missed an Aug. 1 record of 103 by just one degree, but the weather service predicts temperatures will be in the low 90s and upper 80s for the rest of the month.

The National Weather Service is predicting temperatures in the high 90s across the state today, with a slight chance of thunderstorms. The probability of precipitation is 20 percent, decreasing to 10 percent tonight.

Article from the Columbia Record, August 1980.



Ad from Charleston News and Courier, July 1980.

Highest Temperature (Jul – Sep)	Number of Days (Jul – Sep) TMAX >= 100°F	Station	County
105°F	25	Calhoun Falls	Abbeville
105°F	23	Newberry	Newberry
109°F	21	Saluda	Saluda
107°F	18	Hampton 1 S	Hampton
105°F	17	Wedgefield	Sumter
107°F	16	Laurens	Laurens
105°F	15	Manning	Clarendon

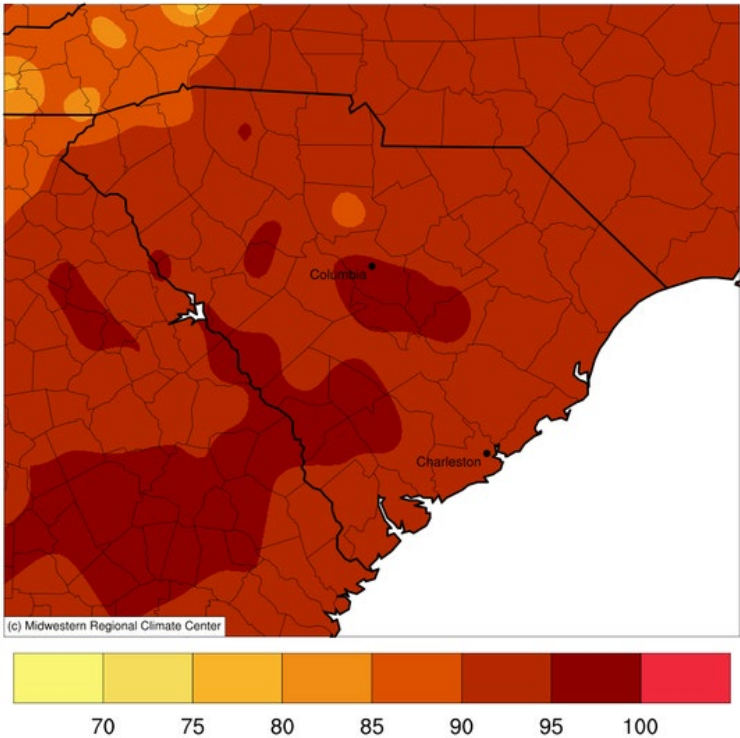
AUGUST 1983

In August 1983, South Carolina experienced a severe heat wave, following drier-than-usual weather patterns in May, June, and July. Divisional average temperatures in August were two to three degrees warmer than normal, and the divisional maximum temperatures for the month were three to five degrees warmer than normal.

The peak of the heat wave occurred between August 21 and 24, with temperatures above 100°F statewide. The National Weather Service recorded maximum temperatures of 109°F at Aiken and on the campus of the University of South Carolina (USC) in Richland County. The USC station also reported 13 days with high temperatures at or above 100°F during that month. The heatwave caused fourteen deaths and numerous hospitalizations. Area schools considered abbreviated schedules, as “temperatures in some classrooms [in Anderson County] reached 100 degrees by 10:30 a.m. Friday [August 19].”

This was the hottest and driest August since 1954, resulting in considerable crop damage and tree deaths in drier areas.

Average Maximum Temperature (°F)
August 01, 1983 to August 31, 1983



All-Time Record High Temperature	Date	Station	County
99°F	August 21	Caesars Head	Greenville
105°F	August 21	Andrews	Georgetown
106°F	August 21	Chester 1 SE	Chester
108°F	August 21	Newberry	Newberry

The above table notes that the all-time highest temperature on record at the listed stations occurred during this heat wave.

Oven back on broil in Midlands

Staff and wire reports

Mother Nature's oven is back on broil, and every South Carolinian who set foot outside of air-conditioned comfort this weekend knows it. Yesterday, after tying the all-time high for Columbia at 107 degrees, temperatures today in the capital city area were expected to reach about 105, cooling down to a mere 100 degrees tomorrow. The record for today is 103 degrees, set in 1968. Temperatures in town yesterday topped out at 108. Forecasters say a front that is expected to penetrate the northern portion of the state late tomorrow might generate enough clouds in the Midlands to hold the mercury in the 90s for the rest of the week, but don't

look for any general relief this week from either the temperature or the drought. Medical experts warn that people should take extra precautions in this kind of weather to avoid heat stress. Drink plenty of fluids, stay in a cool place and limit outside exercise, they suggest. It was as hot yesterday as it's ever gotten in Columbia since records started being kept 1887. State Climatologist John Purvis said the weather service measures its official temperature readings on a thermometer located in a metal box set in the middle of a field. The box is ventilated, so the thermometer can measure the temperature of the air rather than the (See Weather 4-A)

During July 1986, the state experienced one of its hottest summers on record, with daily high temperatures averaging in the upper 90s to near 100°F. The city of Manning recorded 23 days when the high temperature was at or above 100°F, while Columbia hit 100°F nearly every day that month, with the exception of just two days. On July 20, the station in Kingstree reported an all-time maximum temperature of 108°F. Even coastal locations were not spared the intense heat, with the station in downtown Charleston reaching 100°F on 11 different days. That station also set a new record high temperature of 104°F on July 19, only to tie it the next day. Sadly, at least five deaths were attributed to the heat, and numerous heat-related illnesses were reported.

All-Time Record High Temperature	Date	Station	County
105°F	July 19	Salem 5 NNE	Oconee
103°F	July 19	Brookgreen Gardens	Georgetown
107°F	July 20	Hilton Head	Beaufort
106°F	July 20	Holly Hill	Orangeburg

The above table notes that the all-time highest temperature on record at the listed stations occurred during this heat wave.

Farm Belt 'haylift' bringing aid to parched S. Carolina



Keeping track

Mike Dawson, warden-naturalist with Francis Beidler Forest, puts fresh paint on a gauge Friday in Four Holes Swamp, near Beidler forest. Dawson says the level is the lowest since recording began 10 years ago.

by ROBERT SHERMAN
and SID GAULDEN
Post-Courier Reporters

A "haylift" spearheaded by a Charleston-based Air Force transport is scheduled to arrive in the Upstate today, bringing help from the Farm Belt to drought-stricken South Carolina farmers.

And while the drought is stifling agricultural production in South Carolina, one economic analyst says food prices, with the possible exception of fresh vegetables, shouldn't be affected.

The Associated Press said President Reagan on Friday ordered the Air Force to ferry several plane-loads of hay from Illinois to save starving cattle in the drought-stricken Palmetto State.

Two C-141 Starlifter cargo jets, including one from Charleston Air Force Base, were scheduled to fly into Donalson Center near Greenville with 2,000 square bales, or 60 tons, of hay.

Capt. Buddy Gray, a base public affairs officer, said late Friday a Charleston crew was "all geared up" to airlift hay into the state. Gray said the giant transport should leave Springfield, Ill., around 11 a.m. today and arrive at Donalson about two hours later.

Danny McNeill, a spokesman for the Clemson Extension Service, said plans were being made to distribute the hay, the first of several deliveries into the state during the next week.

South Carolina weather continues to be hot and dry, and a record high temperature for the date was set Friday at Charleston International Airport when the mercury reached 101 degrees.

The National Weather Service predicts no break in the weather locally through the middle of next week, with isolated thunderstorms and highs near 100 every day.

"Barring any tropical influence, it's getting more serious by the day," said Wes Tyler, state assistant climatologist. "We ain't asking to be hit by a hurricane, but it would help if we got some rain. It's a good time to live under-

See Help, Page 2-A

Forecast's Like A Broken Record

From Staff and Wire Reports

No relief is in sight for a parched South Carolina struggling through the worst drought and heat wave on record.

"The forecast sounds like a broken record," Dick Mathews, a spokesman for the National Weather Service, said today. "It's going to be pretty much the same as it has been."

"The potential for continuation exists since August and September are usually two of our drier months," said Wes Tyler, assistant state climatologist. "If we don't get any rain in two or three weeks, we're going to have a really bad problem. And it's something that South Carolinians have never faced before," he said.

He requested that people not water their lawns or wash their cars between 4 p.m. and 10 p.m. to conserve water.

Kinard said he didn't think the drought has affected private shallow wells or artesian wells.

But farmers are reeling. In response to a request from Sen. Strom Thurmond, the U.S. Department of Agriculture is sending a team of specialists to the state next week to assess crop damage.

Some 75-80 percent of the corn crop has

See HEAT WAVE, Page 2-A, Col. 3



Newspaper article from The Evening Post in July 1986.

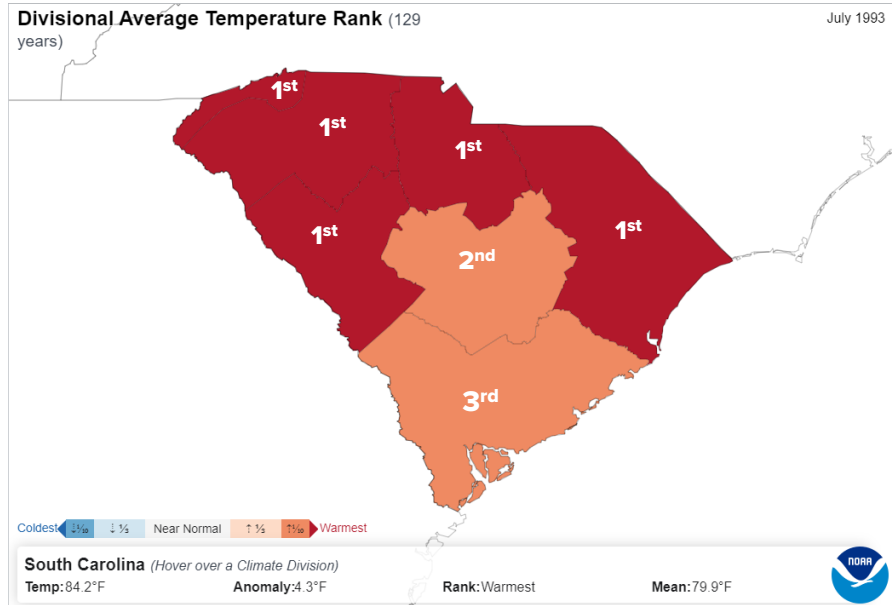
Drought conditions worsened during the spring and intensified during the first two months of summer due to a lack of rainfall and above-normal temperatures. This drought was one of the worst on record for the state, leading to one of the biggest 'hay lift' operations in history, as farmers in the Midwest provided hay to struggling livestock operations. Due to the heat, drought, and extremely low water levels, a fish kill was reported in Beaufort County. The state's industry and hydroelectric power were also impacted by the diminished water reserves, with significant losses in agriculture.

DID YOU KNOW?

South Carolina Drought Response Act 1985 established the Drought Response Committee to address drought-related problems and coordinate responses throughout the state. Learn more about [Keystone Drought Events in South Carolina](#).

JULY 1993

Throughout the first two-thirds of July 1993, a Bermuda High Pressure system off the Southeast coast caused the suppression of clouds and thunderstorms, resulting in the accumulation of heat. The weather became unusually hot and dry, with temperatures averaging between 83°F in the Upstate and 87°F in portions of the Lowcountry and Pee Dee regions. This heatwave occurred across South Carolina, leading to record high temperatures at many locations. For instance, the Pickens station recorded 84.8°F at an elevation of 1,075 feet, and Florence Regional Airport became the hottest location in the state.



July 1993 Average Temperature	Departure from 1991-2020 Normal	Station	County
87.3°F	4.1°F	Beaufort MCAS	Beaufort
86.5°F	6.0°F	Allendale 2 W	Allendale
86.0°F	5.4°F	Manning	Clarendon
85.8°F	3.5°F	Hampton 1 S	Hampton
85.6°F	5.4°F	Winthrop Univ.	York
85.6°F	3.6°F	Clarks Hill 1 W	McCormick
84.4°F	3.7°F	West Pelzer	Anderson

“39 days of 90° or above – this includes 8 days in June – continuously hot with only 0.91 inches of rain in last 2 months – dry and hot! Shrubs and trees dying on campus.”

– W. Culp (Winthrop University COOP Observer, July 1993)

“15 days with 100°F or higher temps are the most on record since at least 1947 (The old record was 11 days in July 1986).”

– M. Gregory (Santuck COOP Observer, July 1993)

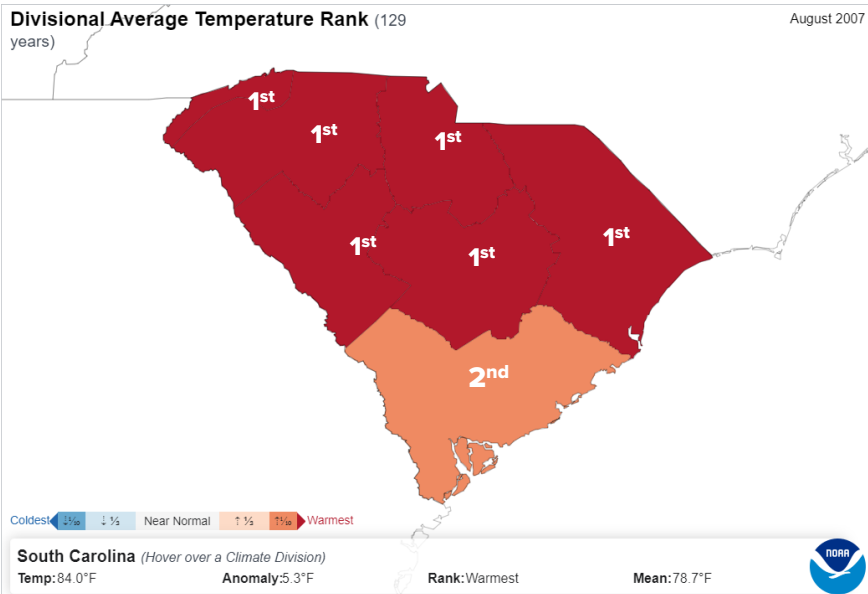
In July 1993, both Saluda and Newberry stations recorded maximum temperatures at or above 100°F for 20 days, while Florence and Darlington recorded it for ten days. The drought and heat created favorable conditions for wildfires, and officials received more than 600 reports in just the first half of July.

The heatwave also resulted in significant losses to agriculture, with estimated damages of \$264 million (1993). Additionally, electrical power consumption was at or near record high levels due to increased cooling requirements.

DID YOU KNOW?

July 1993 is the single warmest month on record for South Carolina since 1895, with a statewide average temperature of 84.2°F, followed by July 1986 (84.1°F), August 2007 (84.0°F), July 2016 (83.7°F), and August 1900 (83.0°F). The long-term statewide average temperature (1985-2023) for July is 80.1°F.

The summer of 2007 was initially mild in South Carolina, with temperatures up through the end of July averaging about a degree below normal. However, this changed abruptly during the first few days of August, as South Carolina experienced a record-setting heat wave. Many locations across the state saw temperatures rise to 100°F or higher, even including places such as Table Rock in the Upstate and Beaufort near sea level.



The highest official temperature reported was 110°F in Johnston on August 10, just one degree shy of the all-time record high temperature of 111°F set at Blackville and Calhoun Falls in September 1925 and Camden in June of 1954. The heat wave lasted for three weeks, with warmest-ever daily average temperatures recorded at several stations in the Carolinas.

The blistering heat caused increased evaporation rates. This led to severe to exceptional drought across the Southeast, resulting in soil moisture values in the 1-2 percentile levels, which is extremely dry. During the heat wave, customers of the Tennessee Valley Authority set a new record for weekly power consumption of 4,400 GW-hours. Progress Energy Carolinas, now part of Duke Energy, also reported record-high instantaneous power usage on their network of 12,656 MW.

107°

Record tied, fried

City sweats out its hottest day since '83, but relief is coming

By JOEY HOLLEMAN
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Like an ice cube in a bucket of hot water, a weak cold front passing through South Carolina today should take only a little of the edge off the state's record-smashing heat.

The reprieve comes after a week of gradual buildup to Friday's 107-degree high temperature in Columbia. That tied the all-time high in the 120 years records have been kept in Columbia. It happened before in 1983, 1954 and 1952.

Five people were taken to hospitals in Richland and Lexington counties Friday with heat-related symptoms, none of them life-threatening, according to officials at the hospitals.

Finally, after six consecutive days of triple-digit temperatures, the forecast calls for highs in the upper 90s today.

The front's arrival will mean winds that have been blowing from the west-southwest will start arriving from the northeast, which generally translates into cooler air. But "cold" might be an exaggeration for this cold front.

"It's going to be a little better but not a lot," said Leonard Vaughan, a forecaster with the National Weather Service in Columbia.

Friday's high of 105 at the Greenville-Spartanburg airport was the hottest temperature ever at that weather site, where records go back

Sweltering heat could mean deadly trouble

By CZERNE M. REID
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Scorching temperatures like those smothering the state this week led to the deaths of 24 people statewide in 1999.

Such a drastic toll hasn't been seen since that year when 21 people died during a three-week heat wave. But it could happen again.

Emergency physician David Ford has treated at least seven people this week at Palmetto Health Richland for heat-related illnesses.

"This summer started off pretty nicely with not a lot of cases," he said. "But in the last week, it has gotten worse."

Monday
102

It was 93 the previous year

Tuesday
102

But it felt more like 109

Wednesday
105

Best record 102 set in 1900

Thursday
106

Set a record for August 9

FRIDAY
107

Ties the all-time record

Today
99

But it will feel like 110

SEE RECORD PAGE B5

SEE HEAT PAGE B5

SUMMER 2011

The summer of 2011 was the second hottest summer on record for the continental United States, with temperatures exceeded only by those in 1936. A persistent high pressure helped maintain the heat across large central and eastern U.S. sections, leading to two distinct heat waves across the state. The first episode occurred in mid-June when high temperatures rose into the upper 90s and 100s for a solid week, including back-to-back 100-degree days in Florence and Columbia. The second episode happened in the second half of July and into the beginning of August when temperatures rose into the 100s. The community of Johnston recorded eleven days with a high temperature at or above 100°F in July.

"Steam bath" conditions were observed on Wednesday, July 13, along the coastal counties. The FAA AWOS instruments at the Mount Pleasant Regional Airport recorded 99°F over an 82°F dewpoint, yielding a heat index value of 124°F. This is the state's unofficial highest accepted observed heat index value.

Maximum Heat Index on July 13

Station

121°F	Johns Island
121°F	Hilton Head
115°F	Monks Corner
115°F	Summerville
114°F	Beaufort MCAS
113°F	North Charleston
113°F	Walterboro

116 HEAT INDEX

'Famously Hot' In Columbia, it's more than just a slogan

From Staff and Wire Reports

The "Famously Hot" slogan couldn't be more fitting for Columbia these days.

The capital city, and the rest of the state have been sweltering this week under a heat wave that has gripped several states in the Midwest, Plains and Southeast.

Temperatures rose to 100 degrees at Columbia Metropolitan Airport early Wednesday afternoon, but the high heat and oppressive humidity made it feel more like 111, according to National Weather Service officials.

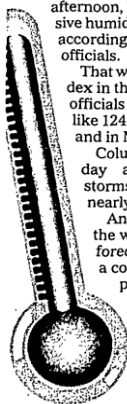
That wasn't even the highest heat index in the state, according to weather officials — in Mount Pleasant, it felt like 124 degrees; in Hilton Head, 122 and in Myrtle Beach, 117.

Columbia got some relief Wednesday afternoon, when scattered storms dropped the heat index nearly 20 degrees.

And more relief appears to be on the way. Thermometers today are forecast to top at 93 degrees, with a cold front from the north dropping temperatures to the upper 80s through the weekend.

"It will feel a little cooler for a bit," meteorologist Dan Miller said.

If the prediction is accurate, the string of 9 degree-plus days in Columbia would end at 4 — just six short of tying the current record of 5 days, set in 1986.



ONLINE:

The city of Columbia has opened cooling

OUR SIZZLING SUMMER S.C.'s on the griddle again

From Staff and Wire Reports

Get ready for intense heat today in an already sizzling summer.

Temperatures hovering at 100 degrees are forecast for the next two days as an upper-level high anchors itself over the Southeast.

HEAT WAVE

Expected forecast highs for the Columbia area, though it will feel much hotter.

Today:

100 degrees

Wednesday:

100 degrees

"This upper-level high is going to reach to the East Coast and it's pretty much going to dominate the southeastern United States," said Jim Kilmer, a forecaster with the weather service

SEE HEAT PAGE A4

Nighttime lows were also extremely warm, with a low of 82°F in Columbia, SC, and 83°F Charleston, SC, on August 4, the warmest low temperatures ever recorded in these two cities. The persistent ridge of high pressure across the area helped create drought conditions. The National Drought Monitor classified much of Georgia and the coastal Carolinas in severe to extreme drought (D2 to D4) as rainfall deficits increased throughout the summer.



Lake Jocassee in 2011. Courtesy D. Young

Newspaper articles about the heat wave were published during the Summer 2011

South Carolina experienced significant temperature fluctuations, ranging from noticeably cooler temperatures in early June to sweltering heat towards the end of June and into July. June started with cool temperatures, with the morning lows during the first part of the month dropping into the 50s and some high temperatures not reaching 80°F.

Highest Temperature	Date	Station	County
110°F	July 1	Santuck	Union
109°F	June 30	Columbia Metro. AP	Lexington
108°F	June 30	McCormick	Edgefield
107°F	July 1	Santuck	Oconee
106°F	July 2	Calhoun Falls	Abbeville
105°F	June 30	Florence Reg. AP	Florence
104°F	July 1	Allendale	Allendale

However, by the month's end, a widespread heat wave affected most of the United States. Many locations across South Carolina reported temperatures in the upper 90s and 100s, with some record-setting temperatures, including 113°F at the University of South Carolina campus in Columbia on June 29. July 1 was a record-setting day for the Greenville-Spartanburg Airport, with a temperature of 107°F, the location's all-time highest temperature. The Sandhill Experiment Station noted a maximum temperature of 103°F on July 5, and the low temperature at Sullivan's Island never dropped below 80°F on July 8. High temperatures combined with high dewpoints to produce heat indices over 110°F at some locations across portions of the state.

South Carolina was also in the midst of one of its worst droughts on record. There was no rainfall, and extreme heat from mid-June through mid-July negatively impacted crops and pastures. At the time, 2012 was the warmest year on record for the continental United States.

Storms break Midlands' fever

Mercury reaches 106 before rain, hail begin falling

By JOHN MONK
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Bands of thunderstorms with hail and lightning swept across the Midlands Sunday evening, causing flooding, power outages and granting a respite to four straight days of 100-degree-plus or more temperatures in the Midlands.

"We've had hail between 2 inches and 2½ inches – that's between golf-ball and tennis-ball size," said National Weather Service forecaster Mike Proud.

Most of the hail was be-

INSIDE

The mid-Atlantic power outages still could last for days to come, officials say, Page A5

ONLINE

Photos from the storm at thestate.com

tween the size of a quarter and a golf ball, Proud said.

Sunday's late-afternoon storms, which came after the mercury hit 106 degrees, dumped large amounts of water across Columbia. Portions of the low-lying Five Points business district and Whaley Street close to the University of South Carolina campus were flooded.

SEE STORMS PAGE A5

109

An all-time Columbia record that sizzles

By JOEY HOLLEMAN
jholleman@thestate.com

It's official: Friday was the hottest day in Columbia — ever.

Columbia hit an all-time high of 109 at 4:52 p.m. Friday, according to the National Weather Service. The previous record was 107 degrees.

Friday's heat passed the June 29 daily record of 103 degrees by 1 p.m. It was 107 by 2 p.m., 108 shortly after 3 p.m. and finally started cooling after hitting 109.

Since records started being kept in 1887, the official temperature for Columbia has hit 107 six times before Friday, most recently on Aug. 10, 2007.

The other 107-degree days were Aug. 21, 1983; June 27, 1954; and July 23, 24 and 29 during an incredible heat wave in 1952, according to the Southeast Regional Climate Center. National Weather Service gauges at USC have hit 109 several times, but that's not

SEE HEAT PAGE A9

DID YOU KNOW?

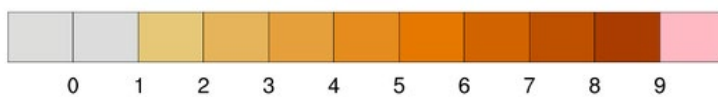
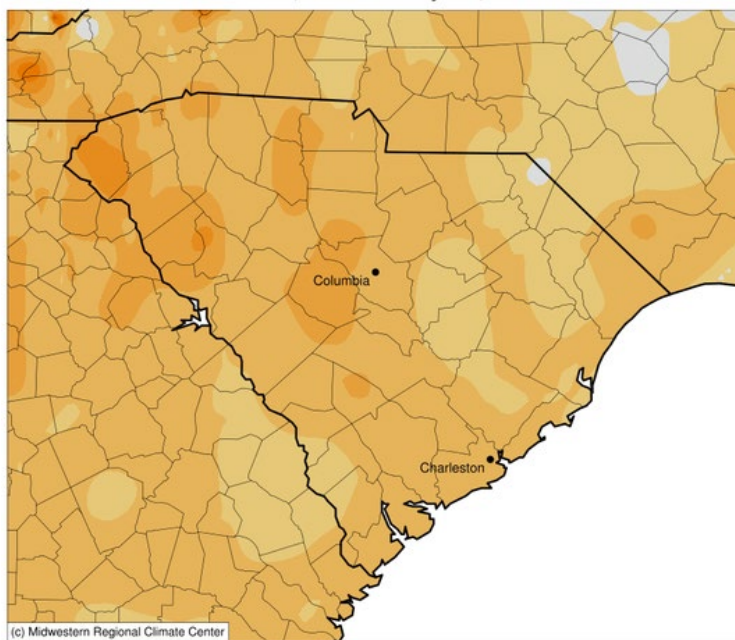
The highest temperature recorded in South Carolina occurred during this heat wave. The National Weather Service station located at the University of South Carolina in Richland County recorded a high temperature of 113°F on June 29. You can read more about the verification via [the State Climate Extremes Committee report](#).

JUNE – JULY 2016

South Carolina experienced high temperatures, with several locations recording temperatures above 99°F and even reaching triple digits during June and July. Triple-digit heat was recorded on July 25 at the Clemson-Oconee Airport with a high of 101°F, and temperatures soared to 102°F at the Beaufort Marine Corps Air Station on July 30. There was little relief at Folly Beach, with a morning low temperature on July 31 of a humid 85°F.

The heat was accompanied by humidity, making it uncomfortable for outdoor activities. Heat and humidity combined for an unofficial heat index value of 123°F at the Barnwell Airport on June 14. The region also saw little relief from the heat, with some areas experiencing drying heat and poor distribution of rain events, and unirrigated fields struggled against the drying heat. Drying heat on July 13 caused a 24-hour open pan evaporation value at Sandhill of 0.52 inches. The water temperature in Charleston Harbor reached a season-high of 88.3°F and 87.8°F at Springmaid Pier in Myrtle Beach. Despite occasional and brief changes in weather patterns, the temperatures remained high, with much lower humidity towards the end of August.

Average Temperature (°F): Departure from 1991-2020 Normals
June 01, 2016 to July 31, 2016



**Number of Days
(June – July)
TMAX ≥ 100°F**

Station

County

26	USC - Columbia	Richland
21	Columbia Metro AP	Lexington
3	Beaufort MCAS	Beaufort
11	Bamberg	Bamberg
11	McCormick	Edgefield
3	Anderson Reg AP	Anderson
1	Sullivans Island	Charleston

Columbia sees 6th day of 100 degrees or higher – 8 days is the record

The high temperature Friday in Columbia was 104, making it the sixth consecutive day in the Midlands thermometers hit 100 degrees or higher.

The 104 temperature was recorded at Columbia Metropolitan Airport late in the afternoon, according to the National Weather Service.

But as hot as it was, the high did not make the record books. A high of 105 was recorded on July 8 in 1977.

The record for a consecutive run of 100 or 100-plus days?

The weather service said the Midlands saw

eight consecutive days of 100-degree or more days in July 1986. It forecast temperatures of 101 Saturday and 97 Sunday.

Experts are warning people to limit their sun exposure, drink plenty of water, avoid strenuous activity, take frequent cool showers or baths, wear lightweight and light-colored clothes and never leave children or pets in parked cars – even for a minute.

A 31-year-old Columbia man's death Tuesday was heat-related, said Richland County coroner Gary Watts on Thursday.

– FROM STAFF REPORTS

Newspaper from The State in July 2016.

DID YOU KNOW?

At the time, 2016 became the warmest year worldwide, with a global average temperature of 1.78 degrees warmer than the mid-century mean. As of the data of this report, [2023 became the warmest year on record worldwide](#), with the average global surface temperature of 59.12°F (2.12°F above the 20th-century average).

South Carolina Monthly Maximum Temperature Extremes 1887 – 2023



Date	Maximum Temperature (°F)	Station (County)	Event
January 30, 2002	88	Manning (Clarendon County)	In 2002, it was an unusually warm January for the 48 contiguous United States and the 9 th warmest in the 1895 to 2015 record. At the time, in 2002, it became the 7 th warmest January.
February 28, 1962	89	Ridgeland 5 NE (Jasper County)	The southeastern United States experienced unusually seasonable and summerlike temperatures in February of 1962. During the last week of the month, the eastern Carolinas had the highest temperatures in any February since the beginning of record keeping.
March 22, 1907	99	Blackville 3 W (Barnwell County)	In 1907, the mean monthly temperature for March was 7.7 degrees above normal. Maximum temperatures were above 90 degrees on an average of 6-7 days in the southeastern counties and 5-6 days in the central counties. Every station exceeded the maximum temperature records of previous years by one to six degrees.
March 23, 1907	99	Darlington (Darlington County)	
April 24, 1925	99	Blackville 3 W (Barnwell County)	April 1925 was unseasonably warm in the Southeast United States. The average daily mean temperatures were five to twenty degrees warmer than average.
April 26, 1925	99	Society Hill 6 S (Darlington County)	
April 27, 1986	99	Yemassee 1 N (Hampton County)	In April 1986, the temperatures were unusually up and down throughout the month. Many South Carolina stations broke records of high minimum and maximum temperatures.
April 28, 1986	99	Aiken 5 SE (Aiken County)	
May 30, 1898	106	Gillisonville (Jasper County)	In 1898, the year's and month's maximum high temperature occurred in Gillisonville on May 30 th .
May 26, 1911	106	Santuck (Union County)	The Southeastern United States had two periods of intense heat from the 18 th through the end of the month. High temperatures above 100 degrees intensified drought conditions.
June 29, 2012	113	USC – Columbia (Richland County)	At the end of June and beginning of July 2012, South Carolina experienced a record-breaking heat wave. This value stands as the record maximum temperature for South Carolina. For more information, see the SCEC report .

South Carolina Monthly Maximum Temperature Extremes 1887 – 2023



Date	Maximum Temperature (°F)	Station (County)	Event
July 18, 1887	110	Chester 1 E (Chester County)	In 1887, South Carolina experienced intense and unprecedented heat, especially on and around the 18 th . Due to this heat, there were numerous unusual and deadly sunstrokes in Charleston and Columbia.
July 1, 2012	110	Santuck (Union County)	At the end of June and beginning of July 2012, South Carolina experienced a record-breaking heat wave. High temperatures soared over 100 degrees, and average monthly temperatures ranged from 1-5 degrees above normal in July.
August 11, 2007	110	Johnston 4 SW (Edgefield County)	In 2007, it was the warmest August in the western Carolinas on record. Many stations in South Carolina broke records. Five consecutive days (August 7-11) had high temperatures at or greater than 100 degrees.
September 4, 1925	111	Blackville 3 W (Barnwell County)	Calhoun Falls and Blackville's high temperature of 111 degrees on the 8 th was the state's maximum temperature in September 1925. There was unprecedented heat with high, record-breaking temperatures for over three weeks that September.
September 8, 1925	111	Calhoun Falls (Darlington County)	
October 4, 2019	105	Pelion 0.8 NW (Lexington County)	Record breaking and unseasonable temperatures at the end of September and October in 2019; multiple stations reporting over 100 for three or more consecutive days; contributed to drought conditions.
November 1, 1961	93	Bamberg (Bamberg County)	The beginning of November 1961 (1 st -3 rd) was hot. The warmest temperatures at almost all stations ranged from the high 80s to the low 90s. Bamberg's high temperature broke the November record at 93 degrees.
December 11, 1972	88	McClellanville (Charleston County)	Unseasonably warm temperatures around the 10 th were observed across the state. Maximum temperatures reached the mid to upper 70s in the Upstate, with temperatures climbing into the 80s at stations in the Coastal Plain.



April 2024